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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/583,242	06/16/2006	Minoru Kuroda	10873.2244USWO	8253
52835 7590 03/20/2009 HAMRE, SCHUMANN, MUELLER & LARSON, P.C. P.O. BOX 2902 MINNEAPOLIS, MN 55402-0902				
EXAMINER				
JUSKA, CHERYL ANN				
ART UNIT		PAPER NUMBER		
1794				
MAIL DATE		DELIVERY MODE		
03/20/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/583,242

**Applicant(s)**

KURODA ET AL.

**Examiner**

Cheryl Juska

**Art Unit**

1794

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 2, 6 and 8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 6 and 8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment***

1. Applicant's amendment filed December 18, 2008, has been entered. Claims 1, 2, and 6 have been amended as requested. Claims 3-5 and 7 have been cancelled and new claim 8 has been added. Thus, the pending claims are 1, 2, 6, and 8.
2. Said amendment is sufficient to withdraw the 112, 2<sup>nd</sup> rejections set forth in sections 1-4 of the last Office Action (Non-Final Rejection mailed September 18, 2008).

***Claim Rejections - 35 USC § 103***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 1, 2, 6, and 8 are rejected under 35 U.S.C. 103(a) as being obvious over US 2004/0185222 issued to Kuroda et al. in view of JP 2003-253574 issued to Tokumoto et al.

The applied Kuroda reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the

application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Kuroda discloses a step pile fabric comprising an acrylic fiber having a dry heat shrinkage rate of 10-50% (abstract and sections [0005] and [0009]). Specifically, the dry heat shrinkage rate is measured by the same formula recited by applicant in claim 1 (sections [0037] and [0038]). The shrinkable acrylic fiber comprises a copolymer comprised of (a) 35-98 wt.% of acrylonitrile, (b) 2-65 wt.% of a vinyl monomer, and (c) 0-10 wt.% of a sulfonic acid group-containing vinyl monomer (section [0056]). The pile fabric is made by blending the shrinkable acrylic fiber with a non-shrinkable fiber to form a sliver and formed into a pile fabric (sections [0078], [0079], and [0096]). Said pile fabric is then heat treated to shrink the shrinkable fiber, thereby forming the step pile fabric (section [0079]).

Thus, Kuroda teaches the invention of claims 1, 2, 6, and 8 with the exception (a) that the acrylic shrinkable fiber is dyeable or dyed with a cationic dye at 55-85°C and heat treated with dry heat at 110-150°C for 20 minutes or less and (b) that the acrylic fiber includes the recited copolymer (II). [Note applicant has broadened claims 1 and 2 to only require the fiber to being *capable of* being dyed (i.e., “dyeable”) rather than actually being dyed.]

With respect to the former exception, it would have been obvious to dye said fiber as claimed since said method of dyeing is known in the art of acrylic fibers. For example, Tokumoto discloses a method of dyeing shrinkable acrylic fibers employed for synthetic fur pile

fabrics (abstract). Specifically, the dyeing method includes dyeing the fiber with a cationic dye at a temperature of 70°C or less and then heat treating the fiber with dry heat at a temperature of at least 120°C (abstract). Hence, it would have been obvious to one skilled in the art to dye the shrinkable fiber according to Kuroda with the dyeing method of Tokumoto. Motivation to do so would be the advantages of the Tokumoto dyeing methods, such as shortened dyeing time and reduced cost without adverse effects on the quality of the fabric.

Regarding the latter exception, independent claims 1 and 8 limit the acrylic fiber to comprise an acrylic copolymer of 60-99 parts by weight (pbw) of copolymer (I) and 1-40 pbw of copolymer (II). The Kuroda composition described above is equivalent to the acrylic composition of copolymer (I). While Kuroda fails to teach a mixture of said copolymer (I) with a second acrylic copolymer, the present claims are held obvious over the Kuroda and Tokumoto references. Specifically, applicant's second copolymer composition, acrylic copolymer (II), is limited to (a) "up to 90 wt.%" of acrylonitrile, (b) "up to 80 wt%." of a vinyl monomer, and (c) 2-40 wt.% of a sulfonic acid group-containing monomer. Note copolymer (II) has the same three components as copolymer (I), but said components are limited to different amounts. Hence, there does not appear to be a patentable distinction between the final products of an acrylic fiber made from copolymer (I) alone, made from copolymer (II) alone, or made from the combination of copolymers (I) and (II).

Also, note that the amounts for the acrylonitrile and vinyl monomer components of copolymer (II) and for the sulfonic acid group-containing monomer component of copolymer (I) are recited as "up to" a specified amount. Since "up to" includes zero as a lower limit, said components are not required to be present in the copolymers. (See *In re Mochel*, 176 USPQ

194.) As such, the combined total amounts of the components of the two polymers still fall within the range of the components of polymer (I) taught by Kuroda. Therefore, claims 1, 2, 6, and 8 are rejected as being obvious over the cited prior art.

### ***Response to Arguments***

5. Applicant's arguments filed with the amendment of December 18, 2008, have been fully considered but they are not persuasive.
6. Applicant traverses the prior art rejection by arguing that Kuroda does not teach a combination of copolymers (I) and (II) (Amendment, page 6, 2<sup>nd</sup> paragraph). This argument is unpersuasive since as argued above the amended claims still limit certain components as optional (i.e., zero). Additionally, even when all components are present in the two polymers, there does not appear to be a patentable distinction between an acrylonitrile fiber made from copolymer (I) alone, made from copolymer (II) alone, or made from the combination of copolymers (I) and (II).
7. Applicant also argues that by controlling the ratio of copolymers (I) and (II), the fiber can be "sufficiently colored at low temperatures and avoid formation of void and agglutination" (Amendment, page 6, 2<sup>nd</sup> paragraph). In response, it is first noted that Tokumoto teaches acrylic fibers can be dyed as said low temperatures without requiring the claimed combination of copolymers (I) and (II). Secondly, it is noted that applicant is arguing features which are not recited in the rejected claims (i.e., avoidance of void formation and agglutination). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

8. With respect to Tokumoto, applicant argues the reference does not teach the claimed combination of acrylic polymers (Amendment, page 6, 3<sup>rd</sup> paragraph). in response, the secondary reference of Tokumoto need not teach said polymer combination for the reasons set forth above. Hence, applicant's arguments are found unpersuasive and the above rejection stands.

### *Conclusion*

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cheryl Juska whose telephone number is 571-272-1477. The examiner can normally be reached on Monday-Friday 10am-6pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached at 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*/Cheryl Juska/*  
Primary Examiner  
Art Unit 1794